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PATENT APPLICATION

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the Application of

Isao YOKOKAWA et al.

Group Art Unit: 2818

Application No.: 10/782,838

Examiner: C. LUU

Filed: February 23, 2004

Docket No.: 118749

For: METHOD FOR PRODUCING SOI WAFER AND SOI WAFER

REQUEST FOR RECONSIDERATION

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

In reply to the October 13, 2005 Office Action, reconsideration of the rejection of the claims is respectfully requested in light of the following remarks. Claims 1-8 are pending in this application.

The Office Action rejects claims 1-8 under 35 U.S.C. §102(b) over Yokokawa et al. (U.S. Patent No. 6,284,629). The rejection is respectfully traversed.

In particular, Yokokawa fails to disclose or suggest a method of producing an SOI wafer in which an SOI layer is formed on a buried oxide film by implanting at least one kind of hydrogen ion and a rare gas ion into the surface portion of a bond wafer to form an ion-implanted layer, bonding the bond wafer and a base wafer to each other through an oxide film, and delaminating the resultant bonded wafer at the ion-implanted layer, in which after the bonding process and the delaminating process are carried out, a thinning treatment of the SOI layer is carried out to make the SOI layer into a thin film having a predetermined thickness and the like, as recited in independent claim 1.

Yokokawa teaches a method of fabricating an SOI wafer wherein an oxide film is formed on at least one of two single crystal silicon wafers (Abstract). Moreover, Yokokawa teaches a method of fabricating a thick layer SOI wafer with excellent thickness uniformity (col. 2, lines 59-63). Yokokawa also teaches a hydrogen ion delamination method in which, after the bonding process and the delaminating process are carried out, an epitaxial layer is grown on the SOI layer to grow the thickness of SOI layer to the required thickness (col. 5, lines 56-67; col. 6, lines 1-58). As such, Yokokawa teaches making an SOI layer into a thick film by epitaxial growth after the bonding process and the delaminating process, and as such, does not disclose or suggest a thinning treatment of the SOI layer to make the SOI layer into a thin film having a predetermined thickness after the bonding process and the delaminating process, as recited in independent claim 1.

Yokokawa is concerned with obtaining a thick SOI layer, and is not concerned with, for example, producing an SOI wafer having a buried oxide film with a thickness of 100 nm or less and to avoid the formation of blisters and voids by increasing the thickness of the SOI layer immediately after delaminating the bonded layer, and also after the delaminating, and then thinning the SOI layer to a predetermined layer. Thus, because Yokokawa does not teach a thinning treatment of the SOI layer after the bonding process and the delaminating process to make the SOI layer into a thin film having a predetermined thickness, Yokokawa fails to disclose, suggest or render obvious the features of independent claim 1. Thus, independent claim 1, and its dependent claims, are patentable over Yokokawa. Therefore, withdrawal of the rejection of the claims under 35 U.S.C. §102(b) is respectfully requested.

In view of the foregoing, it is respectfully submitted that this application is in condition for allowance. Favorable reconsideration and prompt allowance of claims 1-8 are earnestly solicited.

Should the Examiner believe that anything further would be desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number set forth below.

Respectfully submitted,



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